

CHILD STUDY

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HEADLINES

Our attempt in this issue of CHILD STUDY to clarify the subject of aggression was inspired, in part, by the book *Ends and Means*, by Aldous Huxley, noted British writer and philosopher, who contributes the editorial for this issue. The various aspects of aggression are discussed by Dr. Frank Fremont-Smith, formerly Assistant Professor of Neuropathology at Harvard Medical School and Associate psychiatrist at Massachusetts General Hospital, Boston; Peter Blos, member of the committee on the study of adolescents of the Progressive Education Association; Dr. Lawrence S. Kubie, psychiatrist, member of the Department of Neurology, College of Physicians and Surgeons of Columbia University and of the New York Psychoanalytic Institute; Bernhard J. Stern, Lecturer in Sociology at Columbia University and in Anthropology at the New School for Social Research; and Anna W. M. Wolf, of the Consultation Service of the Child Study Association. Dr. Arnold Gesell is Director of the Clinic of Child Development at Yale University.



The topic for the first Fall issue—October—will be "Healthy Attitudes Toward Health." Next November a gala number of CHILD STUDY will mark the Fiftieth Anniversary of the Child Study Association of America. J. F.



## EDITORIAL

KNOWLEDGE tends to be in inverse ratio to psychological propinquity; the more nearly a matter concerns us, the less, as a rule, do we know about it. We are better acquainted with the behavior of atoms than with the behavior of human beings.

BUT, while knowledge is in inverse ratio, certainty is in direct ratio, to psychological propinquity. In other words, the more nearly a matter concerns us the more passionately, as a rule, do we believe that our opinions about it are correct—and consequently the harder it is for us to acquire the knowledge we lack. "I adjure you by the bowels of Christ to conceive that you may be wrong." These words, addressed by Cromwell to the House of Commons, deserve to be written up in yard-high lettering over the door of every church, every parliament house and government office, every royal or presidential residence, every lecture-room and school. Perhaps the most hopeful thing about contemporary education is the fact that quite a number of professional educators (a class peculiarly subject to the temptation to believe in its own infallibility) have come to conceive that they may perhaps be wrong. As certainty diminishes, the increase of knowledge becomes, not indeed inevitable, but at least possible. Conceiving that they may be wrong, educators are in a position, if they have the wit and the patience, to find out something about that vitally significant subject, the intellectual and moral training of children.

IT IS high time that something was found out; for, as things are at present, we subject our children to an elaborate process of education without having any very clear notion of what its effects upon them are likely to be. Consider, for example, this question of aggressiveness, to which the current issue of *CHILD STUDY* is devoted. Nothing could be, psychologically speaking, closer to us; in spite of which, or rather because of it, we know remarkably little about the matter. How much and what sort of discipline should children be given, if they are to grow up with a minimum of aggressiveness and a maximum of initiative and creativeness? To a question such as this we can return no very certain answer. We know, on the



one hand, that militarists, desirous of bringing up their children to be aggressive, have generally subjected them to a very hard and often brutal training. On the other hand, we know that if children are allowed too much "self-expression," if they are not trained in habits of self-restraint, they are likely to grow up to make disorderly nuisances of themselves. Where lies the happy mean? There are many opinions, but as yet no definite knowledge.

HERE is another question. When children of different psycho-physical types are brought up together, what is the effect of their association upon their tendencies toward aggressiveness? Again, we don't know very certainly. Dr. William Sheldon of Chicago has suggested that it is unwise to bring up children of an inward-turning schizothyme type in company with bouncing extraverts. The schizothymes will be miserable and the extraverts will be tempted to bully. If extraverts are kept together they tend to chasten one another's exuberance, while the schizothyme, when associated with individuals like himself, will gradually lose his shyness and come out of his shell. Confirmation of this comes from Scandinavia, where it has been found that the morbidity of schizophrenia declines in those parts of the country in which the schizothyme type predominates, increases wherever the proportion of cyclothymes in the population is considerable. In other words, an inward-turning person tends to go crazy more often and more seriously when he is surrounded by extraverted good-mixers than when he is surrounded by people like himself.

THESE findings are of the highest importance, especially at a time like the present when popular opinion regards the loud and extraverted good-mixer as the ideal human being and looks upon the inward-turning schizothyme as abnormal and inferior. It seems probable that the sum of aggressiveness in our societies might be considerably lessened if we were to take steps to protect the shy, inward-turning child from humiliating contact with extraverted cyclothymes, and if these latter were herded together so that they could "take it out" of one another and so learn to control their native exuberance. It seems probable, I repeat; but, again, we don't know very certainly. And the same is true all along the line. One could ask a hundred more questions, and in every case the answer would be the same: we don't really know. It is to be hoped that the discussion initiated in the present issue of this journal will open up the way that leads to some of the knowledge of which we stand so urgently in need.

A. W. Huxley

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# Aggression in Young Children

By PETER BLOS

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WHEN we talk about aggression we are certainly thinking of behavior which is familiar to all of us. In the first place, we have all shown aggression ourselves, and we have come across it often enough, either by observing children in the streets, parks, homes, and nurseries or dealing with them as parents, nurses, or teachers.

We can agree unanimously that we are confronted with signs of aggression when we see children attacking each other or adults by biting, hitting, kicking, pinching, or scratching. We even see clearly the aggressive tendencies involved in children's teasing or interfering with one another's possessions. Words of offensive character often reveal an unexpected amount of aggression. And this enumeration would not be complete without calling attention to the many forms in which the pattern of aggression expresses itself in children's play with blocks and hammers, paint and clay, dolls and guns. In fact, we are compelled to say that in the superficial, everyday observation of children there is no other behavior which is so frequently, so violently, and so obviously enacted as aggression.

Surveying one's own experience with any normal child it becomes convincingly clear that there exists a tendency toward destructive activity, a tendency to violate the sphere of integrity which all objects possess whether they are inanimate things or not. We also feel if we follow the development of a young child that these aggressive acts differ in intensity and express themselves in varying forms and specific materials according to the child's age and development.

We have no sufficient and clear-cut explanation for this destructive behavior which spoils so many games started in high spirits, which so often upsets the nursery atmosphere quite unexpectedly, and which makes many a family tense and impatient. I have seen intelligent parents lose their tempers about the inconsiderate, persistent obstinacy with which their four- or five-year-olds try to prevent them from finishing a sentence to each other, or attending to whatever else they may be doing. The feeling of inadequacy in dealing with children's aggression seems to be far

more universal than is realized. And it is exactly this feeling of inadequacy which so often leads to outbursts from adults. Aggression on the part of children can upset the balance of adults very easily. This indicates that it touches on adults' own emotional make-up and, we feel almost compelled to say, on that part of their personality which is least adjusted, least integrated, and least controllable.

In the search for a reasonable explanation of children's aggression, we are all too likely to take refuge in the fact that many children with a great deal of aggression come from homes where the chief means of training has been physical punishment and intimidation. By generalizing this experience we come to the conclusion that children, so to speak, learn aggression from their parents. This is far from the truth. The nature of the upbringing is only of relative importance in producing aggressive behavior. Children who are brought up without whipping or any threatening or forceful measures nevertheless show tendencies to aggression and destruction, even if only in their play, fantasies, or choice of stories. On the other hand, children who are brought up with physical or frightening punishment show two extreme reactions: they either lack entirely any aggression, i.e., their management has had an unhealthy, subduing effect; or they become extremely aggressive and inflict on other people or objects what they are afraid of doing to their parents.

Further studies of children, however, lead us to the conclusion that, despite the unpleasantness of aggressiveness, *aggression seems to play a significant part in the child's normal development.* Far from regarding evidences of aggression as indicative of a destructive, unhealthy course in a child's social development, we are inclined to emphasize the universality of it. Signs of aggression indicate a necessary shift from initial passive dependence to active participation and self-assertion. It may be said that aggressive behavior among children in the nursery years appears to be so normal as to represent a definite stage in social development. Aggressive behavior in all its different forms seems to be a natural part of children's primitive



social behavior and is an early attempt to reconcile their personal wishes and urgent impulses with the demands of others. Bridges\* regards a child who does not act in this way as "unsocial, egoistic . . . and slow in social development."

It is worth while to stop here for a moment and reconsider the previous statement. What has been said would lead us to the conclusion that aggression in young children is a desirable attribute in the whole context of early behavior. If this is actually true it cannot be without consequences in regard to the evaluation and management of aggression in the home and nursery school. In order to understand any aggressive behavior we must first clarify the meaning it has in the child's emotional life. Tracing this meaning back to its early sources, we are confronted with it in more primitive form. Before doing so it would perhaps be wise to say that the problem of aggression is still a most complex and rather obscure section of human behavior. Much more detailed study is needed to illuminate the intricacy of this emotion.

IF WE observe a baby at teething time, we see that he simultaneously develops a strong tendency to reach out for anything which attracts his attention. There is another fundamental change at this phase of life which is naturally initiated by the arrival of the child's first teeth. His diet is now changed from liquid to more or less solid food. This change involves a shift from sucking to biting. The sucking instinct becomes less and less pronounced and the biting impulse stands out more markedly. This shift occurs gradually and is retarded or accelerated according to each child's individual history and hereditary make-up.

At the biting stage we observe that the infant takes into his mouth whatever objects he can reach and attempts to treat them as if they were food. This attempt of the baby to gain mastery by means of teeth and gums is astonishing in its violence, perseverance, and inadequacy. There seems to be no doubt that the change from liquid to solid food, from nipple to spoon, is a severe frustration for the child. The response to it is, so to speak, anatomically conditioned by the arrival of the teeth and the ability to master solid food for the first time. But, besides the frustration in the change in feeding, this turning point represents for the baby the first realization of a world outside itself. So far he has experienced only his own impulses from within, and whatever came into his

reach seemed part of himself; especially the breast which completely satisfied his need for nourishment. Entering the biting stage, the child suddenly finds himself deprived of his accustomed modes of satisfactory experience. The sucking impulse is partly replaced by the biting impulse, and if we observe children at this age we can easily convince ourselves of the pleasurable sensation which biting assumes at this phase of life. The biting process as such also changes the child's relation to the world around him. The new process of biting as contrasted to sucking involves the destruction of an object and the active attitude of "putting his teeth" into something. This shift should be viewed as a change from complete self-sufficiency to a wholly new relationship to the outside world. The active and out-going interests of the child at about the time when this shift takes place is a common observation.

In order to understand the child at this stage of development, it is necessary to understand the range of experiences on which he can build, because only then are we able to see his behavior from his own perspective. It is a well-known fact that we react to each new experience with reaction patterns which have been built up by previous experiences. A child who had grown up in a town with red street-cars, after coming to a town where street-cars are blue, exclaimed with great astonishment: "But look, the street-cars are painted here!"

In the same way we have to imagine the relative simplicity and narrowness of the emotional experience in the very young child. In order, therefore, to realize how little experience for comparison and evaluation the child has in the beginning of his life, we must set aside—if that is possible—the accumulated mass of intricate experiences which has built up our own personalities and which we constantly use to orient ourselves.

We can see that the intake of food represents for the child the only experience he has of the outside world. It is therefore quite naturally transferred into other realms of experience and made the foundation of any kind of relationship. The child who reaches out and takes all objects of love, interest, or curiosity into its mouth, trying to eat them up, illustrates this mechanism very clearly, and the same process is soon applied to people. Thus the situation of the baby biting his mother really is not unusual. It lies at the root of aggression. Frustrating experiences and anatomical development are responsible for this change. For the first time the child extends his feelings beyond himself and begins to realize that a world of

\* *Social and Emotional Development of the Pre-School Child.*

objects exists which resists his primitive wish of destruction and physical possession. This realization engenders hostility. A sense of reality dawns on his mental horizon, inaugurating the further drama of love and hate.

For the infant, possession means only one thing, a process of taking something into his own body. This need for incorporation is very important for the small child. It means incorporation of the image of the mother—representing as she does, both permission and restriction—which will in time solidify to form the conscience of the child. The dependence of the child upon his mother implies a constant danger of deprivation. A sense of deprivation exists as long as the loved object is not in one's possession or in one's power of coercion. On a primitive level this deprivation can be avoided by making the other person a part of oneself. This primitive form of aggression as incorporation can be found at the early age of a year when it is inseparably allied with feelings of love. It is therefore important for the management of aggression at this age for the adult not to react with counter aggression, but to take this aggression in its original meaning as a sign of the child's earliest attempts to become related to the world. As long as the child has no self-controlling and self-protective power there is only danger in suppressing and thwarting a child's aggressive impulses.

It must also be kept in mind that these primitive aggressions are of ultimate importance for the child. They manifest, as I have tried to explain, an active outgoing attitude toward reality and a testing out of people and other children and as such need tactful management.

THUS far we have been dealing only with destructive tendencies directed toward loved people. These are on the level of the familiar saying: "I love you so much I could eat you." This and other similar sayings are relics in our daily glossary which indicate that destruction and incorporation of loved objects by the eating process are not really contradictory to affectionate feelings. The other day I was observing a four-year-old girl, hugging her father and repeating several times: "I love you so much I could kill you." The violent embracing and her inconsiderate tearing of his hair were indicative of her being "serious."

Considering the development of aggressive tendencies we can see how they become separated from affectionate tendencies to become independent strivings in the child's personality. These independent strivings become partly repressed and partly refined.

Only a small proportion of the original aggression resists education, and this seems to be transformed so that eventually it is directed toward enemies or rivals in situations of self-preservation.

The young child who has attempted to restore his completeness, his oneness with the world through the process of incorporation, soon realizes that by destruction of a loved object he does not achieve his real end, but deprives himself instead of a source of satisfaction. Furthermore, the child expects that other people are guided by the same tendencies and feelings as himself. He feels threatened with annihilation because of his own wishes to annihilate others. Such a state of mind inevitably produces the fears which are so typical of early childhood and leads to a partial repression of aggressive tendencies. This fear of annihilation leads to the child's finally making the distinction between friendly and destructive impulses toward others about him.

The play world offers an ample field for working out these problems during the nursery years. Motor independence in walking and muscular coordination may serve as an expression of much aggressive behavior. The anxieties and fantasies which accompany this struggle to master aggression can be recognized also in children's love of fairy tales and animal games where attacking and devouring play such an important rôle.

About the age of five the tendency to preserve and cherish what one loves is fairly well established and represents a marked step forward. But such a victory over destruction is bound to bring in its wake feelings of guilt following the child's occasional hostile acts, wishes, or fantasies. We must not forget that the child's perceptions of right and wrong have meanwhile developed and have resulted in the repression of a great deal of aggression. The result is that the child is now tormented by feelings of guilt or anxiety about his aggression. It is most important for parents to realize that by avoiding occasions to which they know that the child will respond with an outburst of aggression they can help to prevent the overdevelopment of the child's self-condemnation and therefore of many of the fears and anxieties which usually develop at this time. The child is genuinely afraid of the intensity of his sudden hostility. Too often parents fail to understand this. On the other hand, it is equally undesirable never to permit a child to express any aggression. The passive child who is unable to show aggression in situations which really call for it tends to develop compensations for direct

*(Continued on page 252)*



# Educating for Peace

By ANNA W. M. WOLF

ALDOUS HUXLEY in his recent book, *Ends and Means*, quotes Thomas à Kempis as saying, "All men desire peace, but few desire those things which make for peace." A close study of this statement may give to the many parents who desire, or think they desire, a world in which international disagreements are settled without war a clue to the ways in which their children's education should be directed if we are to draw even a little nearer to our dream of a world set free from recurrent violence.

Obviously it is not enough merely to denounce war as bad. Nor is it even enough to try to develop in children attitudes of friendliness and appreciation for others, important as this is. It will be necessary also to direct attention to the only conditions under which peace becomes possible and to raise up a generation which will be free to choose whether or not it wishes to accept those conditions and pay the price, even if this price means foregoing certain material things and mental habits now assumed to be indispensable.

It is important to realize that one of the most fundamental sources of confusion lies in the fact that although the teaching done in the best type of home and schools emphasizes the ethics of cooperation and sympathy for others, these ethics are violently negated by the demands of the society in which we all must live. Even at school the wise child soon becomes aware that he is preparing himself to live not in a cooperative but in a highly competitive and cut-throat world where the principle that the devil-takes-the-hindmost is a grim reality. Unless, then, we are willing to educate our children to the possibility of recreating our society itself so that our social ethics can better conform to private ethics, we might just as well give the task up first as last.

For the various efforts thus far to "educate for peace," there is this to be said: they are all centers of contagion. Ideas, even simple ones, may have remarkable vitality, can propagate themselves and spread to new areas. History is full of examples of ideas which seemed at first too naïve to be taken seriously, developing finally into movements of great power. Any voice raised against evil is better than no voice. If we can create and keep alive the hope and with it the determination to have a world without war, the means will be found to that end. War is

with us today not because it is really a necessity, but because there are not yet sufficient numbers who want peace strongly enough to study the conditions on which peace can be had and accept those conditions.

The weakness of the various moves today among most of the people of good-will who strive to educate in youth a sentiment against war seems to lie in a lack of realism about our social institutions and the mores of everyday life. Such a lack is bound to result in an ostrich policy and an inability to face the problem at its source. For example, there are those who urge us to keep from our children war toys, war books, guns, gangster games and other perennial ways in which youngsters enjoy themselves, but which seem to the adult to glorify killing. They would have us exhort our children to love their neighbors, to be reasonable, tell them how bad it is to get angry and to fight, and deeply disapprove such behavior. Furthermore, they are inclined to select their children's reading carefully and offer them only those works which express highest and noblest sentiments. Protect the child from contact with anything selfish or base, runs this faith, and he will never become infected with selfishness or baseness himself.

Yet this type of education begins to break down as soon as children discover that the grown-up world does not really mean what it says. Even their fathers and mothers, especially perhaps their fathers, who best know the world's hardness, begin to fear that the non-fighters among their sons may turn out to be sissies. Few can conceal the glow of pride if it is their child who is the dominant cock-of-the-walk in his small community, though they will, of course, admit that such traits may need modification. On the other hand, if theirs is the child who possesses the gentler virtues, they are subject to the gnawing fear that he will one day get the worst of it.

War, crime, murder, and cruelty, whether they are depicted in Grimm's fairy tales, in games, or in other more sophisticated forms, have an appeal which is undeniable for the vast majority of mankind. While this in itself is no argument for allowing them full license, it does at least lead us to suspect that, like sex, the early manifestations of these interests in children need study before we can say what is "good" for them or "bad" for them. Perhaps we are omitting some-

thing of real importance for normal growth in demanding that children be fed to a large extent on the literature of sweetness and light. Fairy tales have become emasculated to make way for the high moral tone and the happy ending. Juvenile history sedulously avoids the sordid. Tales of cruelty and mutilation (such as the old classics like *Max and Moritz*, *Strewelpeter*, etc.) are banned altogether. Even the Old Testament is suspect. Will this policy accomplish its purpose, or do the aggressive wishes of children simply lie dormant a while longer, to break out in full force at the first stimulus which real life presents?

Horrors, it would seem, even if they frighten, do not really repel. The fear engendered is a thrilling kind of fear like that of war itself, which fascinates and lures us on despite every reasonable consideration. Such a book as Stalling's "The First World War," in which the sufferings of the last one are fully illustrated as a reminder of even more to come, will not, I suspect, deter one single youth otherwise susceptible to the call to arms from responding. As for the deliberate suppression of games of soldier, gangsters, and killing, which seem to be the stuff of the play of most normal childhood of all times (Cops and Robbers, Indians and White Men, and all the other games where "good" people overcome "bad" people), there is no reason to suppose that the suppression of them leads to the elimination of the impulse from which they spring.

ONLY by recognizing aggression as one of the fundamental traits of human nature and learning more about the way it works and the possibilities for its redirection will we ever make progress with this whole problem. It is possible, for example, that certain provisions for the expression of anger and aggression in childhood may act as a genuine catharsis—that far from stimulating and giving license to the use of force, they may under certain conditions, afford an avenue by which the all too human desire to hurt or to dominate others may be drained off into harmless channels. Public exhibitions, such as prize fights, too may perform a similar service for that portion of our adult population who have never resolved their childish angers in the nursery years and therefore carry them all their lives. Observers of children know how frequently a real lust for cruelty is evidenced by normal children. Trampling earth worms, pulling wings from insects, surreptitious torturing of pets, by no means signify the incipient pervert. A child of this type, especially one who at the same time is

inclined to be timid in conflict with others of his kind, may well profit by substituting a considerable period of play with soldiers, guns, knives, and the "bang, bang, you're dead," kind of game, or even Indian tortures, execution of captives and the whole gamut of vicarious violence which distresses mothers.

It is true that there is a point at which such games may cease to be cathartic and become instead stimulants to fantasies of cruelty, and the parent needs to know when that point has been reached. This is not always an easy matter and calls for an increase of our knowledge of the whole subject of aggressive fantasies in children. The problem, in the last analysis, is a psychiatric one, but it seems clear at least that merely banishing these activities from children's lives accomplishes no more than driving them under cover, whence they may erupt from time to time in devious and dangerous forms.

A step nearer reality is a group who see more deeply into the problem than do those who merely deny children their toy soldiers and guns, or punish them for fighting. This group urges us to bring into our children's lives books, games, and experiences of all kinds which help to develop a sense of appreciation for the personalities and needs of other people, and thus awaken them to the fact that to be different or foreign is by no means to be inferior.

There have been several attempts actually to test effects on children's prejudices against other races and nations of movies and reading. Studies, for example, have shown that children's race attitudes seem to be largely conditioned by the attitudes of the people among whom they lived. These attitudes, however, showed change as a result of reconditioning by exposure to other kinds of influences, such as specially chosen motion pictures. These changes seemed to persist at least as long as a retesting after an eighteen months' interval. To this we can only say, so far so good, and that a drop in the bucket is better than no drop at all, but it still remains highly problematic to what extent such tolerance goes beyond mere words, to what extent it could withstand the impact of group pressure, of wholesale propaganda, and even more important, the deliberate stimulation which publicly sanctioned race hatreds offer to these children's own repressed aggressive wishes.

What can be said for the value of travel for young people when they are a little older—travel not merely as tourists, but as friends in the homes of French, Germans, Italians, knowing their languages, if possible, and being exposed to their similarities to themselves as humans, as well as to their differences? Such



efforts to develop tolerance have without question an important goal in view. If not only tolerance were developed, but also a genuine and positive love for peoples of other nations, wars against them would surely become less likely. But extensive cultural education, like travel, is for the very few at best—and even were it more widely extended, the results thus far make us cynical. Witness Europe torn with war and hatreds today, where travel, knowledge of other languages and other peoples is fairly widespread at least among the educated classes. Often it appears that tolerance is easier when we stay close to home and learn all about the charms of the Chinese and other “different” people from books and avoid subjecting ourselves to the probable irritations of living among them. Tolerance is one of the most adult of all the virtues. Even in the best of us it can stand only just so much strain. In children it is doubtful that it can ever be deliberately taught. It can, perhaps, in an atmosphere where it is genuinely practiced, develop slowly over the years, but unless such children are also exposed at the same time to the world of prejudice and hatred, we will never know what they have really learned or whether they have had other than an “ivory tower” education. Too often we are deceived when our children give back what we as parent or teacher have expressed, and have no knowledge of whether their tolerance has gone further than lip service.

WHAT usually happens is that just as soon as children come in contact with the highly competitive mores of real life, these more generous attitudes which have been developed for home consumption turn out to be non-existent. Or, as sometimes happens, where they have been real and deeply felt, the young person suffers a shock which leaves him torn and confused. Either he finds himself at a competitive disadvantage in the real world, or he is forced to conclude that he has been deceived about what is right and good, and becomes frankly predatory. A third possibility, and perhaps the most usual, is that he maintains a double code of morals. In the struggle for economic survival and in social competition he, too, becomes keyed up to a high pitch of hate and aggression, but since his morality disapproves such attitudes, he represses all knowledge of them, and embarks on a course of self-deception which results in inner conflict and tension. Such conflicts and tension are, according to some authorities, responsible for many of the nervous ailments peculiar to our time and help create a society which is perhaps as sick as any the

world has seen. During the middle ages, the monasteries at least provided a refuge for those who took their ethical values seriously. Today we appear to have no choice between neurosis and fascism. For the morality of fascism frankly glorifies force and by making men unashamed of selfishness and hate, restores at least the semblance of emotional harmony in a world where aggression has run amok.

There are also with us the more militant anti-militarists who from the very beginning would indoctrinate children against war. Certain educators, both parents and teachers, set out to preach a passionate doctrine and to denounce war in much the same spirit as the Pilgrim Fathers denounced sin, or as systematically as the orthodox child is educated to believe in the necessity of religious faith. Shall we meet indoctrination, even militaristic indoctrination, merely with counter indoctrination? Or is the only real way to stem the power of unreason a steadfast alignment with the powers of reason alone?

And this question, if answered affirmatively, raises further and still more fundamental problems. Can young children profit by any deliberate education for peace, when such education involves a hard-headed knowledge of human affairs and human nature which is clearly beyond the child's (and apparently most adults') intellectual grasp? To the question stated thus, the answer appears obviously “no.” But there is another half of the problem which has to do with feelings and emotions, appreciations and the development of sensitiveness. These things, too, are a part of education and these things, too, are among the realities of human personality which will determine what kind of a society we want and what values we shall hold most dear. Perhaps the only real lessons in pacifism which the young child can truly absorb are the ordinary lessons of human consideration as practiced by family and friends. Not alone what we tell our children, nor what we give them to read, but what we are and do in our daily lives are bound to leave their deepest mark. Our attitudes toward servants and tradesmen, toward dirty and “objectionable” children from underprivileged homes, who climb on our automobile or steal our children's sled, our unspoken feelings about the colored person who sits next to us in the street car, about the Jew in an exclusive real estate development, private school or club, about our children's intimacies in whatever families represent to us “the other side of the tracks”—all these will make up the sum and substance of how children learn to feel about others who are different from themselves.



And let us not as parents and teachers deceive ourselves. There is more and more evidence that the world today belongs to the hard of heart and the narrow-minded. In the degree to which children really learn the lessons of human decency, they will be handicapped in the competitive race for success. It is for this reason that if we decide to make the choice of peace, we must be prepared to educate our children to remold human attitudes and institutions prevalent today. Further than that, and this is the largest, of orders, because our knowledge and our techniques are still crude, a child should have an opportunity while still young to resolve successfully some of the conflicts which center around the hostile tendencies of infancy and early childhood. It has been the hope of this discussion at least to bring the problem of aggression to the attention of parents and educators, and to give some idea of its complexity. If it does not succeed in answering many questions, it may at least indicate what questions it is fair to ask. The problem of educating children to hate war

is essentially that of educating them to love life and to find satisfaction in the creative possibilities which life offers. Without these satisfactions, every one is a prey to propaganda, and if the truth were known and for all their protests, many welcome war as a release from their small meaningless lives. Here at last is something which offers them a sense of power and purpose which they have hitherto lacked.

If Waterloo was won on the playing fields of Eton, perhaps peace can some day be won in the nursery and on the playing fields of the schools of the future. Only a race set free from its anxieties, fears, and infantile hostilities can be clear-headed enough to think its way through the intricate problems of social organization which it must master in order to make a better world. The technical knowledge and intellectual brilliance now at our disposal will continue to be futile until people genuinely desire to use them to serve peaceful rather than aggressive ends and until they are courageous enough to undergo the social and personal changes necessary to these ends.

## The Physiological Basis of Aggression

By FRANK FREMONT-SMITH, M.D.

ANY attempt to describe the physiological basis of aggression, or indeed of any form of behavior, must lean heavily upon the results of investigations on lower animals. The experiments of W. B. Cannon, begun in 1909, gave the first foundations for an understanding of the anatomical structures and physiological mechanisms concerned in emotional expression. P. Bard, working first with Cannon at Harvard, now at Johns Hopkins, has carried these studies to a point where the basic structures and functions involved in human affective behavior begin to be delineated. Knowledge and ignorance here stand in curious apposition, for more is known of the structure of the human brain than can be correlated with human behavior, and at the same time far more is known of human nature than can yet be understood in terms of anatomy and physiology. It is the purpose of this article to describe, with reference to aggression, the most important bridges that have been built connecting these two islands of information—the brain and the man—which until recently have been almost completely isolated.

Webster's New International Dictionary defines *aggression* as: "A first or unprovoked attack, or act

of hostility; the first act of injury or first act leading to a war or a controversy; an assault; also the practice of attack or encroachment; as, a war of *aggression*." These definitions make it clear that aggression is a form of behavior which is directed toward an object. It constitutes one expression of the ever-present interaction of organism and environment.

The attempt to separate organism from environment, or behavior from the circumstances under which it occurs has led to much futile discussion. Life in all its phases reflects the continuous interplay of forces arising both within and without the organism. C. R. Stockard in his "The Physical Basis of Personality" states: "Thus after birth, as before, the life and activities of the organism are so interwoven with the environment that no biologist may think of one without the other. The animal and its environment are really a single compound curiously knitted together: either would be different if the other should change." Thus the child cannot be understood apart from his family and social milieu, nor can any aspect of his behavior be looked upon as either purely inherited or as wholly the result of training and experience.

In addition to observations on man and on wild



animals, studies of domesticated animals, experiments in breeding, and operative procedures have all contributed to what we know of the physiological basis of aggression. Striking differences in the tendency to aggression are apparent among the lower animals, as when one compares the carnivora with the herbivora, e.g., the lion or the tiger with the sheep or the gazelle. Even among the herbivora, however, there are aggressive species, at least in so far as their reaction toward man is concerned, e.g., the rhinoceros and the wild boar; while within a single species there are aggressive types, as terriers among the breeds of dogs. Such differences in the tendency to aggression are clearly constitutional and inherited. Individual differences even among litter mates are also found, but here the relative influence of environment and inheritance is much more difficult to evaluate.

Stockard, on the basis of breeding experiments with dogs, has concluded that there are forms of behavior which are characteristically associated with specific types of inherited physical structure. Among the factors determining physical structure he gives great weight to the quality of the glands of internal secretion, e.g., the thyroid, the pituitary and the sex glands. It is well known that there are important differences in aggressive behavior dependent upon sex. In many species the male is much more aggressive than the female. That this difference is due largely to the function of the male gonads is demonstrated by the results of castration. The ox is a gentle animal compared with a bull, and the gelding compared with a stallion. In certain species, as in the deer, the male may become much more aggressive at one season of the year, and then particularly in the presence of another male. The female, however, may also become aggressive when danger appears to threaten her young. In these instances the aggressive behavior cannot be considered as a function belonging to the organism alone, but is clearly a reaction of the organism to a particular environment.

IN MANY animals the tendency to aggression varies with the stage of development, frequently rising to a peak in early adult life and, after a slowly declining plateau, sinking with old age. Moreover, even the most aggressive individual may show marked differences in behavior under varying environmental circumstances. A person may "see red" only in response to some specific stimulus. Clearly then, aggression is influenced by inheritance, sex, the function of certain glands of internal secretion, the stage of development, and the environment. In a given

case only the most painstaking study will reveal the relative importance of these interrelated factors.

As Stockard has said: "Man's most striking deviation from his nearest animal relatives is in intellectual achievement. There is no difference comparable to it between any other animal species." One of the fundamental characteristics of intelligent behavior lies in the ability to delay reaction to a given stimulus. This capacity, which permits the control and even the suppression of aggressive impulses, appears to depend upon the increasing development, as one ascends the evolutionary scale, of the "grey matter" of the brain—the cerebral cortex. A striking example is seen in the case of the mongoose, a mammal, which is able to kill one of the most deadly reptiles, the cobra. The mongoose tempts the cobra to strike, and again and again dances back just out of reach. The cobra strikes repeatedly, each time with all its strength. With fatigue, its reach becomes progressively shorter, until the mongoose can avoid the poison fangs by merely leaning back on its haunches. If the cobra could delay action and gather strength, it could easily kill its tormentor, but having almost no cerebral cortex it cannot delay, and so falls victim to the more highly developed mongoose.

As in the evolution of the race, so in the development of the individual from infancy to adulthood, the capacity to delay action parallels the growth and maturation of the cerebral cortex. That the capacity to control aggressive behavior resides in the cerebral cortex is clearly shown by what happens when the cortex is destroyed. Cannon removed most of the cerebral cortex in cats and discovered that almost any slight stimulus would cause these animals to display all the evidences of intense rage—spitting, snarling, striking, erection of hairs, arching of the back, and so forth. Bard carried these experiments further and demonstrated that the removal of the cerebral cortex from one side of the brain would render the animal susceptible to such outbursts of rage if touched on that half of the body which had been released from its cortical control, although when touched on the normal side no such reaction would occur. These and other experiments prove that the cerebral cortex normally has an inhibitory or controlling action upon the expression of aggression.

Cannon has also shown that in the normal animal the exhibition of rage is accompanied by intense activation of the sympathetic nerves and a coincident discharge into the blood stream of adrenaline from the adrenal glands, which in turn reinforces the action

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# Athletics and Aggression

By LAWRENCE S. KUBIE, M.D.

EVERY unbiased observer of the educational scene in America deplores the revolting spectacle of colleges and schools using athletic prowess to drum up trade. This prostitution of sport has many evil effects upon our educational institutions. The young athletes themselves are exploited; the successful ones are given inflated gratification which never again will come to them so easily. And potential students are diverted from decent educational aims.

At the same time there has been another unfortunate by-product of this situation. The whole subject of athletics has become *infra dig*. Because athletics have been abused in the past, and because their rôle has been exaggerated in the more conventional institutions, the progressive school has tended both to underestimate the importance of athletics and to turn its back upon the more general problem of physical prowess. As a result, the conscious cultivation of athletics as a means by which children can help to resolve in a non-destructive way some of their primitive aggressiveness has been neglected. And nowhere has there been a clear understanding of the emotional and psychiatric implications of physical prowess and physical awkwardness in the life of the developing child.

Recent studies comparing the neuro-muscular coordination of infants and even of identical twins, show that from the earliest months there are marked differences from one child to another. And from the moment when two infants in a nursery first crawl on their knees in pursuit of the same rubber ball, it is impossible to eliminate physical struggle and physical competition from their world. We see some infants and children who scramble eagerly, with confident, quick motions, starting and stopping quickly; and in contrast to these we see other children who start slowly, who move timidly, who fall readily, and who sit long and silently. It is inevitable that in the nursery the first group should quickly become the cocks-of-the-walk while the second group must learn as rapidly as possible to shield itself from incessant defeat. We may wish that we could bring up this second group of youngsters in a world in which bodily skill, coordination, speed, and strength, made no difference. But to wish for the impossible

brings it no nearer; and in the meantime this type of child actually suffers, and suffers with a pain which can do lasting injury to his developing personality.

If, however, he is properly helped in these early difficult years, later in adolescence such a child can acquire a high degree of dexterity of the very kind which he seems so completely to lack at the beginning. It is as though some youngsters develop their coordinations early and others develop them late, if at all. Each of these groups presents a concrete type of problem, both in emotional education and in physical management, for there are dangers ahead for the little bantams who win early victories too easily, just as there are for those who encounter innumerable minute petty defeats every time they play a game of tag, every time they race another child to pick up a toy, every time they engage in a tussle.

The usual parental attitude toward the "underprivileged child" (underprivileged, that is, as to his initial endowment of physical strength and athletic skill) is the worst one possible. He is made to feel foolish, awkward, and somehow as though his defeats were his own fault. And not only that, he is made to feel that he ought to *enjoy* defeat. No normal adult would deliberately choose as a form of recreation any activity in which he was a hopeless and helpless duffer. No normal adult would incessantly place himself in situations in which he was foredoomed to defeat. Yet that is exactly what we ask little boys and girls to do when we expect them to "enjoy" activities in which they cannot excel; calling it "making them into good little sports," or "building character." As one honest coach said: "When we have good material we win games; when we have poor material we build character to beat hell." Obviously, there is a place for athletics in character education but character is not built merely by increasing children's feelings of inadequacy.

Parenthetically, lest we be misunderstood, we would emphasize that it would be a great mistake to look upon the solution of this problem as a sure preventive of neuroses in later life. Often enough one sees the successful school and college athlete who, despite his successes, has manifest neurotic difficulties. But to the awkward boy, who all his life has suffered innumerable defeats, becoming more skilful and more



adequate in physical competition means an emotional release from captivity.

In order to do this effectively, however, we must consider some of the basic factors which contribute to this problem of physical coordination. In the earliest months, body-form and weight play an important rôle, and not the weight of the trunk alone, but also the weight of the limbs, and the length of the bones. These differences may persist throughout life, although in lesser degree. The briskness of reflexes in the short limbs where leverage is good will differ from the reflexes of long, lax limbs. The structure of the joints themselves, the adequacy of the calcium metabolism during the slow developments of the formative years, all leave their traces on the body's capacity to adjust itself quickly to the demands of ordinary simple physical competition—whether it be the crawling, walking, toddling, running, skipping, hopping, jumping, and tussling of the nursery years or the more highly organized sports of older children.

IN the original endowment, there are other important organic factors. We have learned in recent years that between complete right-handedness and complete left-handedness lie many intermediary states. We know that certain of these "intergrades" show a considerable amount of ambidextrous skill; whereas in others there is interference between the parts of the brain which determine these states of partial-handedness, with the result that various degrees of awkwardness ("apraxia") result. Sometimes these neurologically determined states of awkwardness involve primarily the large muscles, which control the movements of the trunk and of the limbs with relation to the trunk. Sometimes their influence is primarily on the finer uses of the small muscles of the extremities, more particularly of the hand. Obviously these differences must play a great rôle in determining what a child is capable of doing, and his resulting proficiency in sports.

Then there are other organic factors which recent physiological investigations are just beginning to make clear—some of which are known and some only suggested. Thus there may be differences in the actual chemistry of nerves, nerve endings and of the muscles themselves. There are differences in the chemistry of the tissues, such that a cut or bruise may cause a more violent local chemical disturbance in one human being than in another. Consequently, the same injury may be a much more serious psychological trauma to one child than to another. Are

we to call the first child a "baby" and a "coward" for that reason? Or if he develops fantastically inflated ideas of the damage that slight injuries can do to his body, are we to blame him and add a sense of guilt and of unworthiness to his already heavy burdens? Or are we on the other hand to coddle him? To find our way through this dilemma is not easy.

Thus we find that developing children show wide variations in their initial physical endowment with regard to muscular skill and coordination. These variations are dependent upon many and varied physical conditions of the body. In addition we see that the chemistry of body-tissues varies in such a way that simple experiences of bumps and scratches may mean vastly different experiences to different children in terms of pain and suffering. Consequently, from the very start, some children live in worlds of triumph, and others in worlds of defeat. Nor is it made any easier for the child that he must manage these childish victories and set-backs under the influence of the impatience, the consolation, the anxieties, the exhortations, and the resentments of the adults under whose eyes he is growing up.

AND to these objective physiological facts and environmental influences there is added a complicating superstructure of fantasy which makes effective management of the problem even more difficult.

When encouraged to talk about their fantasies without embarrassment, we find that both the triumphant athletic child and the awkward child harbor some extraordinary ideas. To the former, triumph is his natural right. To the latter, triumph is a sour fantasy. I have seen a case in which every cut or scratch or bruise induced in a vigorous but awkward boy the eruption of a flood of uncontrollable and obsessive ideas of torture and mutilation. At the same time, the longing to triumph was deep in him but was inhibited for him by being linked to ideas actually of killing all his hated rivals. His murder fantasies and his torture fantasies, "crime and punishment," gave to the whole field of sports a significance in this child's mind far beyond the grasp of the ordinary gymnasium teacher or the casual coach of school sports. It is obvious that children who are dealing with surcharged feelings of this kind cannot function freely in any so-called "games," and that no technique of training which leaves out of account these emotional factors can possibly succeed.

The child who is physically so equipped that he can win abundant triumphs in his daily rough and tumble contacts with children escapes from his pre-

occupation with his body to these external triumphs; but the child who in play meets defeat and frustration turns away from play to the solace of the pleasures which his own body can yield. He is the child who develops compulsive eating habits, exaggerated interest in excretory processes, insistent auto-erotism, and the like; and out of this he builds new problems, new feelings of inadequacy and inferiority, new feelings of guilt for his secret hates, new terrors that he has injured his body, and new constraining fears of indulging in further competitive efforts with the children around him.

Toward puberty this need for solace for inferiority is again intensified. Whereas one child will begin to mature at eleven or twelve, another may not begin until fourteen or fifteen. They will express their feelings about this only when subtly encouraged to do so, but all youngsters are acutely aware of these differences. And since, in general, it seems to be true that the physically less adept youngster usually has an endocrinologic set-up which tends to give him a late sexual maturation, he receives a new blow at this critical period of change—which in turn is just the period of childhood education when organized competitive sports receive their major formal emphasis. The final outcome of these complex interrelationships is a neurotic inhibition on any form of free athletic activity with its attendant psychic difficulties.

FROM what has been said it should be clear that there is a complex interrelation between physical prowess, anxiety, aggressiveness, feelings of security, and psycho-sexual adequacy. As we encounter them clinically, even in the developing child, these relationships are never simple. The child or adult whose mind is literally crowded with fantasies of his own destructive power may present to the outside world a meek and timid facade; and the blustering, impatient, aggressive bully may on his part be covering up deep convictions of his own physical inadequacy in all directions. Why one inept child is crushed by his physical awkwardness and grows up with an outward manifestation of his timidity, why another child makes a blustering over-compensation for his limitations, will depend upon a great many subtle facts and experiences: but in terms of ultimate health and happiness both outcomes are so undesirable as to leave little choice between them. What one would hope to do instead would be to start very early, literally in the kindergarten, and by patient individual work build up in the child an increasing basis of physical adequacy in as many directions as possible.

No system of physical education can possibly hope to achieve this, however, if it pays no attention to the crushing superstructure of fantasies to which we have already referred. It is literally impossible to teach a child to do the simplest movements skilfully, if in the doing of these movements he is caught up in a web of fantasy of murder, or of parent-hatred, crime and punishment, or torture. From the first, therefore, the problem is a double one, and the attack on it must be double, involving both the highly specialized techniques of physical education and re-education, and the necessity for an emotional rapport between the child and the trainer which will enable the child to ventilate his fantasies. The acquisition of physical prowess will then mean to the child the progressive discharge of anxiety, a progressive and normal discharge of aggressiveness in well-sublimated channels, and the acquisition of skills in the world of reality in which he lives which will put him on a par with his fellows, and give him a reasonable amount of external experiences of success.

However, if we view the problem realistically we will have to accept the fact that many children will reach the upper elementary years in school and the early years of high school already deeply scarred by a history of life-long physical awkwardness and ineptitude, by a lack of skill in games, by days every one of which have meant a thousand minute and humiliating defeats, with the consequent inflated significance of fantasy, anxiety and rage in their secret psychic life.

This is not the place in which to outline in detail a system of reconstruction. Certain basic general principles could be indicated, however.

- (1) In the first place, we need to work out basic tests of coordination by which children could be graded as to their especial aptitudes and limitations—comparable to an I. Q. examination.

- (2) Children should no more be launched in complex sports in school without being carefully examined for their inherent capacity and incapacity, than one would launch a child in a new school without making any effort to grade his intellectual capacity and his degree of training.

- (3) Schools should begin their autumn season with a period of at least one week devoted to the establishing of this physical "I. Q." of each student, and to the working out of an athletic program for each student. This should precede the beginning of formal classes—and the pursuit of this program of athletic

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# Patterns of Cooperation and Competition

By BERNHARD J. STERN

SOCIETIES differ considerably from one another in the pattern of behavior which they set as the ideal for the participants in their group life. Some encourage, some accept, others inhibit, and others prohibit manifestations of aggressive character. There is an infinite variety of shadings in the intensity of the sanctions and taboos which mold personalities. Yet everywhere it is the observance of approved standards which gives status and prestige. Neglect or defiance of the proper modes provokes censure or disgrace.

Children respond to the tone and overtones of the community in which they live. Their spontaneity is muted to conform to the manner regarded as correct. The impress of the surrounding culture channelizes the child's drives according to what it values or what it deprecates. The personality of the child is cast into molds set by the ethical and moral sanctions of the influential persons of the community. These are part of the medium in which the child matures, along with the more basic economic environment.

Many writers, particularly writers of literature of escape, have drawn a fictitious contrast between patterns of primitive culture and those of civilization. This idealized primitivism, usually a reaction against contemporary formalism and convention, was already voiced in ancient Roman times by Seneca, who declared of primitive society: "The social virtues had remained pure and inviolate before covetousness distracted society . . . avarice and luxury had not disunited mortals and made them prey on one another." An English poet of the 18th century was similarly ecstatic: "No avarice chills," he sang, "And no ambition fires."

Primitive societies are, however, infinitely variable in their sanctions. It occasions no surprise among anthropologists to find in a simple tribe, even among the democratic aborigines of America, a passion for wealth that affects human relations in a manner comparable to that of capitalist society. Cora DuBois has given a graphic picture of the influence of wealth among the Tolowa-Tututni as it affects the training of children. She writes: "Educational precepts stressed the suppression of sex on the one hand and on the other maximized the desirability of wealth. . . . The older men talked to the boys, told them to make

money, how to be rich, not to eat too much or they won't get rich. A boy is warned particularly 'not to think about women all the time,' but to concentrate instead on wealth. Then people will think something of him, think what a big man he is." Ruth DuBois illustrates how the consequent competitive spirit dominates the community; how the acquisitive rivalry for wealth and power colors the relations between husband and wife, parents and children. These children are aggressive because they live in an aggressive society. This community situation is, of course, by no means unique in primitive societies. Readers of anthropological literature are familiar with the Kwakiutl described by Professor Boas, among whom the ideal of wealth and ancestry pervades all thought and action. A comparable set of values, although not stressed with quite the same degree of intensity, prevails among the people described in my work, *The Lummi Indians of Northwest Washington*.

In sharp contrast to these competitive cultures, is that epitomized by the Zuni. There the ideal for young and old alike is personality submergence, the antithesis of aggression. Ruth Bunzel has well described the social attitude toward the place of the individual: "In all social relations, whether within the family group or outside, the most honored personality traits are a pleasing address, a yielding disposition and a generous heart. All the sterner virtues—initiative, ambition, an uncompromising sense of honor and justice, intense personal loyalties—not only are not admired but are heartily deplored. . . . The man who speaks his mind where flattery would be much more comfortable, the man, above all, who thirsts for power and knowledge, who wishes to be, as they scornfully phrase it, 'a leader of his people,' receives nothing but censure and will very likely be persecuted for sorcery." It is the retiring person who never directs attention to himself and who functions best in cooperative activity, who is most admired. The young here are therefore not aggressive because society is not aggressive. It is significant in evaluating the efficacy and desirability of these attitudes among the Zuni to bear in mind that class divisions are entirely absent among them, and at no time has there been the slightest tendency toward the consolidation of political-economic or religious power.

The evidence from anthropology thus strongly corroborates the importance of the conditioning process in the formation of personality. The vast variety of diverse cultures illustrates the extraordinary plasticity of human behavior both in regard to specific habits and fundamental attitudes toward life and society. Emotional needs can find satisfaction through numerous outlets. Persons can identify themselves with an infinite variety of institutions and find fulfillment in diverse behavior, if that behavior brings them a modicum of status, prestige, and self-esteem. Human nature is not fixed, static, pre-formed. It is neither avaricious and competitive nor self-effacing and cooperative. It is to a very large extent what the social pattern makes it.

The social tradition in which a child is born plays upon the wide range of all his possible functions, and defines his rôle. There are, of course, individual differences in response to the pressures of the social environment, but it is hazardous to speak of aggressive or submissive types, as if these were physiologically determined and immutable. For better knowledge of personality development makes us aware of the powerful part which compensation may play in transforming an introvert into an extravert, a submissive into an aggressive type.

LET us apply these generalizations to our society. The competitive, acquisitive spirit in our own culture arises not out of an inherent, unchangeable, individualistic "human nature," but from the social pattern which confers status in terms of private wealth and income. At the same time, the class structure of our society prevents the masses of the people from acquiring sufficient wealth to live without want and fear. The tensions arising out of unemployment, or of unsteady employment, the anxieties involved in obtaining the minimum requirements of survival, not to speak of dignified living, harass all but very few of the people of America. It is the insecure person who becomes assertive and aggressive, or, on the other hand, defeated and thwarted when unable to cope with the competition. And capitalism based on private wealth which is derived from the exploitation of the labor of others and characterized by periodic unresolvable crises, is unable to provide security. It is not merely that urban and industrial society has complicated living, that as distinct from all previous societies, the problem now is *earning* a living as distinct from *making* a living. It is that our society does not utilize the prodigious powers derived through technological advances in industry and in agriculture to ease

the lives of millions of men, but instead piles up profits for hundreds. An acquisitive society patterns acquisitive men and women or leaves a wreckage of individuals crushed, their morale shattered, in the battle for life and happiness. On the one hand, there are no bounds to avarice; on the other, the difficulties of getting a livelihood have led many parents to nurture aggression in their children, that they might survive in the economic combat.

The relevance of teaching ideals of cooperation, and of curbing overt aggression must be evaluated in terms of the realities of the present-day situation. The liberal educator interested in the fuller creative functioning of the individual cannot endorse an abstract program of education for cooperation, if this program serves merely to extend present coercive controls by obscuring the conflict of interests between those who own and those who toil. There is, however, a real place in our educational system for stress upon cooperation. It is in the clarification of the interests of the great body of people, proletarian and middle-class, so that they will be cognizant of the need to cooperate with one another for a common goal. It is clearly not merely cooperation that is important, but cooperation with whom, and for what? The present economic and political scene offers ample channels for cooperative activity, in which children can become psychologically identified with adults in action. Participation in consumer groups, trade unions, tenant leagues, peace societies, cooperative associations, all protect and extend the rights and interests of the people, and educate men and women to think and act beyond themselves and their individual problems. The larger arena for cooperative thinking and action lies in the political sphere where members of all progressive groups can join forces to preserve the democratic rights threatened by militantly aggressive fascism.

In her very revealing autobiography, *I Change Worlds*, Anna Louise Strong complains about the effects of the wrong type of education for cooperation of which she was a victim: "It was and is the theory of the American middle-class that their children should see no evil in the world. None of the great battles of man should enter into the home to 'take the bloom from youth.' Children must never know the meaning of harshness and injustice. . . . I grew up expecting justice as natural rights of man; if anyone treated me with unkindness, I assumed it must be through my fault. . . . So deeply do habits of childhood condition our after days that even today I dis-

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# Parents' Questions and Discussion

STUDY GROUP DEPARTMENT

Cécile Pilpel, Director—Anna W. M. Wolf, Editor

*My boy is now six and still occasionally pulls the wings off insects, beats his puppy, and pinches or hits younger children when my back is turned. I've punished him again and again, but it doesn't seem to help. Is there no way to correct a trait like this which, it seems to me, he should have outgrown?*

Distressing as such cruelty is to adults, it is not unusual in small boys, and girls, too. Such children need help, but, as you have discovered, punishment does not do much good. On the contrary, it is likely to stimulate further the angry aggressive feelings which give rise to this kind of behavior. Prevent or check such acts whenever you see them, of course, making it very clear that you disapprove, and why. Perhaps you can stress the obligation of the big and strong to protect the helpless and weak in a way that will appeal to the child's pride.

But you must attack the problem at its source, too. All of us have some measure of these cruel impulses though they may be inherently stronger in some people than in others. Most of us learn to deal with them successfully by turning them into useful and socially accepted channels. You can help your boy most by finding better outlets for these feelings of his—plenty of rough and tumble play with other boys, if necessary, supervised to see that the rules of fair play are maintained. There are many activities which provide opportunities for some vicarious violence: materials to hammer and cut and pound, toy guns or bows and arrows which permit aggressive play on a make-believe level, even chances to help in necessary and useful acts of destruction, like swatting flies or destroying garden pests. Further, be watchful for undue pressures which may be stimulating such behavior. Is your boy being bullied by older children or too severely disciplined at home or in school? Is he angry at some treatment which he considers unfair or jealous of a brother or sister to whom he must always give way? You will need to consider the whole picture as carefully as possible, eliminating, if you can, any external influences which are making it harder for your boy to come to terms with his inner aggressive drives.

*I do seem unable to avoid occasions on which my six-year-old turns and attacks me. Just yesterday he came upon some candy that I had hidden because he had been eating too much of it. I told him I would give him some after supper but he grabbed the box. When I insisted, rather heatedly, I admit, that he couldn't have it now, he became terribly angry and shouted that he'd get even with me. He came at me with both fists. I had to put him out of the room and hold the door against him. How can I help the boy to a greater self-control and what shall I do when he attacks me?*

Your boy may be one of those children who find it hard to tolerate thwarting, and are aroused to quick anger by frustration. It is well for the parents to understand that this trigger reaction may be part of his basic endowment. If it seems troublesome to you, it is even more of a burden to him. Not only is his own self-respect undermined by these uncontrolled outbursts, but he suffers acutely from the realization that his parents are angry and disappointed in him. He feels that they may retaliate by physical punishment or by withholding their love. These children need a great deal of patient help. Everything possible should be done to avoid these outbreaks before they get started. Be sure that you never show anger or fear if you think you see one coming, but try quietly to forestall his anger. This does not mean letting him have his way.

Let him know at appropriate times how much you value and love him and that you recognize these temper episodes as unhappy episodes which you are sure will in time, and with both your efforts, disappear. Build up his self-esteem. Well supervised group games help such a child learn to accept the rules of the game—depersonalized and so more easily acceptable. Also he is likely to maintain better control of himself in front of children his own age than before his parents.

If your boy attacks you, you should of course defend yourself, perhaps by holding his arms. It is well for him to feel that you are stronger than he is, and to know that his destructiveness does not frighten you. If you keep control he runs less danger of doing

something serious, about which he might later be remorseful and guilty. It may be necessary to let him thrash about until his first explosive anger has spent itself. Then let him alone. Later, when he is in a calm mood, indicate that your disapproval was not of him but of his behavior.

*My child, aged ten, has in the past year become unbearably noisy and slangy and seems to take pleasure in being deliberately tough and dirty. Is this the fault of the school he is in, or have I failed to teach him good manners?*

Most boys and many girls go through a normal rowdy period at this age. During this stage he will consider it "sissy" to be clean and quiet. Recognizing that it is essentially a normal part of development, parents will not be too strict in their demands for washing and tidying up, and will make some compromises too where the outward forms of good manners are concerned. Neither the school nor the parents have failed—no one is to blame. One simply has to know that this stage of crudeness and boisterousness is a normal one, and to have a sense of humor about it. If you are not too fussy and severe ordinarily, it is likely that your child will pull himself together when on special occasions you do wish more adult behavior from him.

*My husband and I can't come to an agreement about the kind of school to which we should send our thirteen-year-old son. He has always been very sensitive and somewhat timid. He does not like rough sports, though he does swim well. He is liked in school and has one good friend and also sees some of the other boys occasionally. My husband feels that the school he is going to is all wrong for him and wants him to go to a regular boys' school where competitive athletics are the order of the day and where he will be expected to do as the other boys do and will have to get toughened up or be out of things. I am afraid that he would be miserable in such a school.*

Your husband goes on the "push in and swim" idea, which sometimes works, but all too often results in failure and aggravates the very difficulties it aims to cure. Does your husband feel that you have coddled him over the years? Do you feel that you have been overprotective and that the father has therefore kept hands off, as it were, in the boy's training? Is the boy just not the kind of son the father would have liked to have? If some of these

things are true, a sudden Spartan procedure does not offer much promise, but it might be helpful for both you and your husband to talk the matter over with an experienced counsellor to see what mistakes you may each have made and what new steps are now called for.

Your son may, however, just naturally and perfectly normally fall into the more introvert group and live his life happily in his own way. If this is so, the father will have to learn to accept his son as he is, and not as he would like him to be. To the degree that the father can do that, the boy will become freer and probably less timid. He may then develop interests and capacities which the father, too, will enjoy, even though they are not those which he hoped for in a son. The article by Dr. Kubie in this issue will, I am sure, throw some light on the problem of the timid boy engaging in athletic activities.

*My fifteen-year-old daughter goes to a high school where the children are encouraged to take active part in current controversies: to join anti-fascist groups, give aid to picket lines, and so on. Personally I think she has very little understanding of the real issues, and I question the wisdom of stirring up emotions and foisting responsibilities for action on children too young to know what they are talking about or doing. What do you think?*

Children differ greatly in their maturity in such matters, and one cannot be sure that a fifteen-year-old does not appreciate at least some of the simpler issues of social justice. But aside from this, most young people have a passionate desire to belong, to identify themselves with a group. When this group also represents a "cause" the emotional appeal is even stronger, since it satisfies also the idealistic impulses of youth. Modern life offers young people all too little opportunity to serve or to feel that they are making a contribution to society. If your daughter's leftist sympathies are providing this outlet, they have some validity and perhaps are a beginning of something worth fostering even though her thinking is half-baked.

You ought by all means to discuss with her the issues involved in these questions from your own point of view, and if possible help her to see the many sides of these problems. Do not be surprised, however, if you meet with unreasoning opposition and unwillingness to concede that you might have anything worth saying. Rebellion for its own sake is very frequently a part of the emotional needs of ado-



lescents. In joining social rebellion they are often dramatizing and giving vent to their own personal need to throw off authority as represented by their parents. This very fact often makes the parents the last people in the world who can clarify the issues for them. Social study courses in schools and colleges would be vastly improved and the way paved for clearer thinking if this fact were understood by both

parents and teachers—and perhaps to some extent by the young people themselves. Yet it may be unwise to belittle their social efforts or to attempt deliberately to divert them by trying to get them to understand the emotional basis of their attitudes. A certain amount of passionate partisanship seems necessary to adolescents. But as their self-understanding increases there is likely to be less heat but more light.

# Suggestions for Study: Aggression in Children

## TOPICAL OUTLINE

- 1. AGGRESSION IN THE NURSERY  
Examples of rage and hate in infants; relation of love and hate; the meaning of ambivalence of the emotions; possessiveness in young children; fighting; tempers; learning to cooperate. How much control have we a right to expect at various ages?
- 2. AGGRESSION AND HOSTILITY IN THE HOME  
Brother-sister rivalries and antagonisms. How much is normal? The parent's rôle in their management. Hatreds expressed and unexpressed. The child who is not aggressive enough. How did he get that way? What should we do for him? Cruelty in children. Outlets for aggression through play.
- 3. ROLE OF THE SCHOOL  
Competition in schools. Has it a place? What are its limitations? Athletics—what function should they perform? The problem of the non-athletic child. Gang aggressions—how can they be well directed?
- 4. THE CHILD AND SOCIETY  
Is aggressiveness a necessary condition for individual success? In our own society? In every society? Possible results of teaching generosity in a world where force seems to prevail. Educating for peace; psychological problems; sociological problems.

## QUESTIONS FOR DISCUSSION

- 1. The B. children have grown up in a home where people are affectionate, cooperative, and fair in their dealings with each other. Recently in public school they have encountered meanness and unfairness even from adults, and the triumph of might over right among the children. They are at a loss as to how to behave. Unless they conform somewhat to the customs and practices of the other children, they will be considered queer. How can their parents help them?
- 2. A gang of neighborhood children has been conducting prolonged guerilla warfare against another group of children who attend a private school. Should the parents of the latter encourage their children to organize and fight back? Should they complain to the police? What should they do?
- 3. Mary, aged four, is very rebellious against authority. She sometimes strikes her mother and calls

her names. She says "I won't" to almost every suggestion made and frequently destroys books, toys, and clothing. Should this behavior be ignored because aggressiveness in children is normal? How should it be handled?

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## PATTERNS OF COOPERATION AND COMPETITION

(Continued from page 240)

believe evil that lies right under my eyes. I catch myself always assuming that capitalists and workers wish the same kind of 'decent world.' I feel it incredible that the world moves toward war, even when I can follow the moves."

Children conditioned by social attitudes based only on an abstract theory of cooperation cannot fail to be faced with a conflict situation as they encounter life. On the other hand, the stress on active cooperation through the democratic agencies of a democracy offers real emotional satisfactions and personality expression, and at the same time promotes progressive ends.

# Science Contributes

## INFANTS ARE INDIVIDUALS\*

By ARNOLD GESELL, M.D.

EVERY generation rediscovers and reevaluates the period of childhood. The history of human culture could be written around the changing attitudes toward children and the changing interpretations of the meaning of infancy. The first five years of life are the most consequential in the formation of the human individual, for the simple and sufficient reason that they come first. Coming first in a dynamic sequence, they inevitably influence all the years that follow. We never entirely slough off those first five years. They always linger with us. They are the nucleus of each of us.

Now this does not mean that the years that follow are not important, too. It takes a long time to grow up. Nature needs a good many years to bring the human to adult stature. She also has compensatory devices for overcoming some of the handicaps of a poor preschool start. Yet there is no way of short-circuiting those first five years; they lie at the core of human personality. And in all planning for the health of the community, in our provisions for universal education, and preventive hygiene of the mind, we must begin with beginnings. We must protect the psychological growth of the preschool child.

Psychological growth! A rather elusive phrase. Growth is a process so subtle that we cannot perceive it. Nor can we behold or touch the psychic essence of the individual—that innermost of all subtleties, the human mind. Even the poets have failed to bring us face to face with the mind of infancy. There must be at least another century of scientific research before we can achieve a comprehension of the life forces of those first five years. Society demands a more scientific comprehension.

In spite of all this elusiveness, I shall, with your cooperation, boldly try to make the early growth of the mind tangible to you. In reality the mind is not as utterly insubstantial as we commonly suppose. The mind is a living structure which grows. Even though unseen, it is an organism, an organized and organizing

being which has form, contour, tendency, and direction. It has architecture. It is as configured as the body. It reveals this configuration in modes of reaction, in patterns of behavior.

### *The Scientific Study of Early Growth*

For the present we may forget about metaphysics and conventional distinctions between mind and body. From the monistic standpoint of objective science, the mind of the infant is a reaction system—a complex but integrated system which expresses itself in characteristic forms of behavior, in patterns of posture, locomotion, perceptual adjustments, in prehension and manipulation, in gesture and vocalization, in social adaptations. In these patterns of behavior the mind makes itself manifest.

At the Yale Clinic of Child Development we have used the motion picture camera as a scientific instrument to chart that marvelous succession of behavior patterns which normal infancy displays. The cinema is an ideal instrument for the investigation of complex behavior patterns because it captures the behavior in its totality; it sees the whole field of behavior with equally distributed vision, and the film remembers infallibly. It registers simultaneously the attitude of the head, trunk, arms, legs, eyes, fingers, and face. It crystallizes any given moment of behavior in its entirety. By multiplying these moments, the cinema reconstitutes the movements of a whole episode of behavior. But in the service of genetic research the cinema can also make records of succeeding days, months, or years, and bring them into seriation. Thus the cinema makes available for study (a) the behavior moment, (b) the behavior episode, and (c) the developmental cycle.

The cinema furthermore enables us to dissect a behavior pattern and to construe it morphologically; that is, in terms of form relationships measured in time and space. Indeed, when any given behavior pattern is once captured by the cinema film, it becomes as tangible as tissue. The *cinema lucida* permits us, so to speak, to bring the behavior of the infant into the laboratory in a dissection tray for analytic study. Cinemanalysis is an objective method of behavior research which enables us to approach

\*This paper is the third of a series of articles which CHILD STUDY is publishing through the kind cooperation of the Woman's Roosevelt Memorial Association. These articles are based on the material presented in a course of lectures given under the auspices of the Woman's Roosevelt Memorial Association entitled "The First Five Years of Life."



the problems of mental growth from the standpoint of *developmental morphology*. The problems of human individuality must be approached from the same standpoint.

The Photographic Research Library of our clinic has assembled systematic cinema records of the behavior development both of normal and atypical infants. Most of the records were made at lunar month intervals under controlled and also under naturalistic conditions. The films have been classified and catalogued by library methods and can be consulted chapter and verse. They constitute source material for researches in clinical and developmental psychology.

### *A Cinema Portrayal of Infant Behavior*

The cinema serves to make tangible the elusive processes of growth. Our film depicts the development of the rudimentary hand in the prenatal period; the reflex grasping after birth; the advancing patterns of prehension and exploitive manipulation shown month by month in the infant's reactions to small wooden cubes (blocks) which were experimentally used to define the maturation of the neuromuscular system. By the *method of coincident projection*, two successive levels of maturity are thrown upon the screen simultaneously. The cube behavior patterns of the self-same infant at twenty-four weeks and at twenty-eight weeks are shown, side by side. This immediate comparative view of two maturity levels discloses the nature of mental growth; a progressive transformation coordinated in time and place, and controlled by profound laws of development.

So lawful are these patterns of cube behavior that we may use them as an image of the developmental mechanics which underlies the growth of human individuality. Note the orderliness with which the reactions to the little red cubes elaborate from age to age! At four weeks the infant does not perceive the cube. At eight weeks he holds the cube for a short time if it is pressed into his palm. At twelve weeks he regards a cube placed near him on a table; and at sixteen weeks he regards the cube prolongedly. At twenty weeks he may corral it with both hands; at twenty-four weeks he picks it up on sight; at twenty-eight weeks he bangs it on the table top. At thirty-two weeks he prehends the cube with increasing thumb opposition; at thirty-six, forty, and forty-four weeks he brings two cubes into more and more elaborate combination. At forty-eight weeks he brings one cube above another in a sketchy manner which promises tower building at a later date; but the behavior pattern of adaptive release is not yet mature. Incipient

tower building with rudimentary release of the block begins at one year. At eighteen months he may build a tower of three or more cubes. At three years he can look at a model and make a bridge of three cubes. He takes two cubes and separates them by less than an inch; then takes the third cube to bridge the gap. This bridge-building ability is a symptom of maturing intelligence.

Significantly enough we have found that the eighteen-month-old child, even with instruction, cannot build even a simple bridge of three blocks. He must double this age before he is equal to the test. He can build a tower at eighteen months. Superficially it would seem to be more difficult to build a balanced tower of five cubes. This demands a nicer degree of motor coordination. But the laying of the bridge requires more judgment. The mechanism of behavior growth is so complicated that it takes eighteen months of added neuromuscular elaboration before the more complicated pattern of bridge building comes into expression. Towers before bridges is a law of human growth.

The early patterning of the infant's behavior with paper and crayon shows similar stages of progression. He begins to scribble at twelve months; he makes crude imitative strokes at eighteen months. At two years he makes a defined vertical stroke. At three years he copies a circle. At four years he copies a cross. At five years he draws a crude, recognizable man, albeit his representation is still somewhat remote from "the human form divine." Here again we have visible evidence of the lawfulness and the orderliness of development.

### *The Beginnings of Behavior*

These are early chapters in the behavior biography of the baby; but they are not the first chapters. The first chapters are prenatal and they are most important. From a biological standpoint the growth of the mind which takes place after birth is but a continuation of the growth which occurs in the uterus. There is one psychological continuum between conception and death. Indeed, the psychological growth, the behavior patterning of the infant and even the formation of his individuality, begins months before he is born.

May I give you a glimpse of this uterine life, so that you may better understand the first year of post-natal life? Consider the fetus at the midperiod of gestation, about twenty weeks or five months of age. Although at that age the future infant measures but a foot in length and a pound in weight, he is already far advanced in his bodily organization and

distinctly human in his lineaments. Do not picture him as grotesque, cramped and compressed. He is already maintaining a partially independent existence in the fluid medium of the womb. His posture even now is not unlike that which he will later assume when he lies ensconced in his bassinet. His heart is beating; his skin is sensitive; he can make lashing movements of arms and legs and respond in an orderly way to many stimuli; he even makes rhythmic movements of the chest, prerrespiratory movements in preparation for that not long far off event when the breath of post-natal life will rush into his lungs.

The five-month-old fetus is already in possession of the twelve billion or more of nerve cells which make up the human nervous system. This is his full quota, all the cells he will ever have. Even at the prenatal ages of two and three months, these cells are forming. And one month after his statutory birthday, the cells have already attained an astounding complexity of structure and arrangement.

As the fetus grows, as the infant grows, as the child grows, as you and I psychologically grow, these cells become organized into patterns. These neurone patterns lie at the basis of all behavior patterns. Mental growth is a process of behavior patterning, based on neurone patterning. This patterning process pervades not only the eyes and the hands, arms, legs and feet, it pervades the less visible interiors of personality. The emotional attitudes of the child are moulded and matured through the operation of the same laws which control the patterning of postural attitudes. These laws of growth are as inescapable as the laws of gravitation.

### *Evidences of Individuality in Infancy*

Of course, this does not mean that all children pass through exactly the same stages in precisely the same way. Nature is infinite in her variety. She does not even make identical twins perfectly identical. Every child has a distinctive growth pattern which expresses or constitutes his individuality. There is a popular impression that all babies are much alike to begin with. In the heyday of behaviorism in the 1920's, it was even suggested that the differences among mankind are largely due to conditioning.

Our studies at Yale point in a different direction. We have found unmistakable evidences of individuality in the human infant in the first months of life. Recently, with the research assistance of Mrs. L. B. Ames, we undertook an experiment in prediction to determine whether the first year of life foreshadows the fifth year. This experiment bears so directly on

the theme of the present discussion that I must summarize it briefly.

The study was based upon an analysis of the cinema records of five different infants. The children were photographed under homelike conditions at lunar month intervals throughout the first year of life. These extensive cinema records embraced the major events of the infant's day, namely sleeping, waking, bath, dressing and undressing, feeding, play, and social behavior at advancing age levels. Additional cinema records and psychological observations of the same children were made at the age of five.

A trained and unbiased observer (LBA) *who had never seen the infants*, made a detailed analysis of the cinema records covering the first year of life. On the basis of the objective evidence of the films alone, an estimate of fifteen behavior traits was made and the children were arranged in rank order for each trait. The same children were again studied at the age of five and were again rated with respect to the fifteen behavior traits which they had displayed in infancy. The two appraisals were made independently.

Is the strength of a behavior trait in the first year of life predictive of a similar strength in the fifth year? The fifteen traits of behavior individuality which were considered were: (1) energy output; (2) motor demeanor; (3) self-dependence; (4) social responsiveness; (5) family attachment; (6) communicativeness; (7) adaptivity; (8) exploitation of environment; (9) "humor" sense; (10) emotional maladjustment; (11) emotional expressiveness; (12) reaction to success; (13) reaction to restriction; (14) readiness of smiling; (15) readiness of crying.

For each child and for each trait at one year and again at five years, a comparative judgment was made. Out of the seventy-five comparative judgments, forty-eight coincided; twenty-one showed a displacement of one rank order only; five, a displacement of two; and one, a displacement of three.

Our periodic cinema records clearly show prophetic characteristics in the behavior traits displayed in the first year of life. We compare five personalities in the making. None of these personalities is finished; but each is already distinctive. One child is agile, another almost awkward; one is socially outgoing, another restrained; one is very perceptive of the feelings of others; one restlessly inquisitive, one self-contained; one is gay, another sober; one quick, another slow; one is given to lasting moods, another passes blithely from mood to mood. We have demonstrated (to our own satisfaction at least) a significant degree of internal consistency in the behavior



features of these children at one year and at five years of age. This consistency seems to rest upon biological characteristics which lie at the core of human individuality. Because of these characteristics, the first year of life does indeed foreshadow the fifth year of life.

### *Psychological Growth as a Key Concept*

Growth is a simple word but it contains profound implications. It is the key concept for a sound philosophy of child care. Growth is not, of course, absolutely foreordained. Even a seed of corn needs soil and air into which to thrust its roots and leaves. The human plant needs a rich network of personal relationships on which to project its tendrils. The emotional reactions of the infant are patterned in a medium of social relationships. In every household, in every nursery, there is a web of life, an interdependence of persons which becomes registered in the growing personality. If the infant is cared for consistently and sympathetically, he acquires a sense of security. He learns to feel safe, confident, and expectant in a world of vicissitudes. He belongs. He has faith that he will be fed, sheltered, assuaged, and loved. This faith, this sense of security, issues in a slowly increasing self-reliance. The sense of security is not a mysterious intuition, but an organized disposition built up steadily by daily experience.

The makeup of personality is therefore importantly influenced by family life, by parent-child relationships and teacher-child relationships, by social sur-

roundings. But we must not jump to the confusing conclusion that we can mould the child as though he were so much clay. He isn't clay. Clay does not grow. Nor is he a bundle of conditioned reflexes. He is an individual, with inborn propensities, with inherent constitutional characteristics. As such he is subject to the same laws of growth which shape the progressions of block behavior. We may indeed assist the child in his growth, but he must do his own growing. The first and almost the last task of the adult is to *understand* the child—that is to comprehend the limitations and the configurations of his individuality. Infants are individuals.

We pay vastly too much attention to mere training and instruction. Our central task, particularly in the first five years of life, is to discover and to respect individuality even in the tender age of infancy. If we focus upon this difficult but fascinating problem of understanding individualities, a new atmosphere will seep into home and school. There will be more tolerance, more kindness, and much more humor. More humor, because we cannot get a true estimate of ourselves or of others without that sense of proportion which is the sense of humor. More kindness, because if we appreciate the formativeness of the child's personality, sarcasm and other unnatural forms of punishment become impossible. More tolerance, because we would then see the "faults" of children as symptoms of immaturity.

For all these reasons, growth is the key concept for a sound philosophy of education—the education of young children and possibly also of ourselves.

## Sun Bathing

This article has been written by Elinor H. Tiger based on material gathered by her from authoritative, scientific sources. It has been read and approved by a skin specialist.

WITH the inviting summer sun coming within our reach once more, we look forward to basking in its warmth, to lying on the beach and playing outdoors with our bodies exposed as much as possible. But what is the authoritative medical opinion about the exact benefit or possible harm that we derive from such exposure?

The rays of the sun are composed of the infra-red

or heat rays, the luminous rays or those which we can see with the naked eye, and the ultra-violet or actinic rays, that is, those capable of chemical action. The physicists tell us, however, that we must not assume that actinic action is absolutely confined to the ultra-violet rays or heat action to the infra-red rays. The main difference between these rays is that of wave length. The ultra-violet are the shortest and the infra-red are the longest. The ultra-violet rays comprise about 1% of the total sun's rays, but it is this small fraction that causes the greater part of well-known sunburn or solar erythema.

The infra-red or heat rays cause a reddening of the skin immediately upon exposure. But this disappears

and it is not until several hours later that the true sunburn which is caused by the ultra-violet rays appears. This delay in appearing is one of the main things that distinguishes a "sunburn" from a true burn. Sunburn may be very mild or very severe with painful blisters and peeling, and occasionally fever, headache, and nausea. Some tanning of the skin usually follows exposure to the sun; but the more peeling, the less tanning.

There are at least two diseases for which the authorities agree that sun bathing, judiciously used, is specifically beneficial. One is rickets and the other is extrapulmonary tuberculosis (i.e. of organs other than the lungs). In the treatment of rickets not only the patient but also the milk which he drinks is now irradiated, with excellent results. For the many other claims regarding the benefits of sun bathing there is a tremendous variety of opinion.

One of Dr. Kellogg's (Founder of Battle Creek Sanitarium) rules for right living is, "Take a sun bath often enough to keep the skin well browned." He believes that sun bathing improves the circulation of the blood with stimulation of the phagocytes (the large white corpuscles that attack bacteria), brings relief of high blood pressure, causes increased production of hæmoglobin, and thus relief of anæmia. He claims that sun bathing is valuable in relieving pain, congestions, and inflammations in deep-lying parts. He (and others) report improvement of metabolism accompanied by better appetite and better elimination. And he states that he has never known a case of permanent injury due to sunburn.

The majority of eminent skin specialists, on the other hand, believe that there are definite dangers in overindulgence. Dr. Henry Laurens reminds us that sunshine is of paramount importance to plants, but not to men; that men can get along with comparatively little sun if necessary. He says that climate in its relation to health is not merely a question of sunshine, but of fresh air, wind, temperature, humidity, altitude, diet, and occupation. And he believes that eczema solare, summer prurigo, "sailor's skin," and skin cancer are possible results of too much sun. He quotes Dr. Greenbaum who reports the death of infants after a short exposure to ultra-violet radiation, Dr. Hausman who believes that the central nervous system, and especially the brain, may be injured, and Dr. Brocq who believes that the reddening of the chest in women predisposes them to acne, urticaria, and eczema. Dr. Laurens warns especially against ultra-violet radiation for feb-

rile patients. He says that, although high blood pressure may be relieved in 60% to 70% of cases, this relief is usually only temporary, and that, although tuberculosis of the skin is definitely helped by ultra-violet radiation, other skin diseases may be aggravated.

Dr. Traub in *Hygeia* states that acne, psoriasis, and some varieties of eczema improve with sun bathing, but agrees with Dr. Laurens that all skin diseases may be aggravated by an overdose, and even those that do benefit can usually be helped more by some other methods. Most dermatologists agree that repeated severe sunburn predisposes some individuals to keratoses which appear as slightly raised scaly or crusted freckles and which later in life may become skin cancers. It needs to be emphasized that, even when a tan is acquired gradually, too much of it may cause "sailor's skin" and later skin cancer in certain predisposed persons.

Thus, in contrast to Dr. Kellogg's belief quoted above that no permanent injury ever results from exposure to the sun. Dermatologists in general say that prolonged exposure may at times cause not only systemic disturbances but also inflammatory and degenerative changes in the skin.

All the authorities, even those who strongly advocate sun bathing as a therapeutic and prophylactic measure, agree that the length and method of exposure must vary according to individual differences in sensitivity and the intensity of the ultra-violet rays present in the sun. The latter vary with the season of the year, the hour of the day, the temperature of the atmosphere, the grayness of the day or humidity, the presence of reflected rays, the latitude, the altitude, the presence of dust particles in the atmosphere, and the barometric pressure.

It is generally conceded that blondes and red-headed persons burn more quickly and more severely than brunettes. Dr. Kellogg points out that Negroes and other dark-skinned races are almost exempt from sunburn. Dr. Laurens reports that persons with unstable nervous systems or overactive thyroid glands, persons with high blood pressure or active tuberculosis show a high sensitivity and cannot take as much ultra-violet radiation as normal persons. Dr. Kellogg calls attention to the curious fact that white cows are sensitive while red and black cows are not. Spotted cows will burn on the white spots only.

Persons who do not tan easily are thought by some doctors not to benefit as much from sun bathing as those who do. Certainly everyone does not achieve the "cosmetic effects" that Dr. Kellogg describes. He



reports enthusiastically that the skin becomes finer, softer, and more delicate, and loses its wrinkles, and that the hair and nails grow faster and more luxuriantly. But there are many persons who become mottled and freckled and whose appearance is not at all enhanced by sun bathing.

The variation in the ultra-violet content in the sun according to the season in climates such as in regions around New York can best be described by the following table of Dr. Kellogg's, using 1.0 as an arbitrary figure of the greatest sun intensity:

January .....	0.1	July .....	1.0
March .....	0.3	August .....	0.9
April .....	0.5	September ....	0.8
May .....	0.8	October .....	0.6
June .....	0.9	December ....	0.2

Thus in July there is ten times as much intensity in the sun's rays as in January. The theory that there is comparatively little value in the winter sun in this climate is quite understandable. Another table prepared by Dr. Kellogg giving the variation in the intensity of the sunlight at different hours of the day shows that at noon the sun has more than twice as much intensity as in the early morning and early evening.

It is known that in high mountain regions the intensity of the ultra-violet rays is greater because the atmosphere is clearer and the density is less. There is also in these regions less variation between summer and winter in the intensity of the ultra-violet rays. In Alpine regions the intensity is as great in winter as at sea level in July.

Dr. Nelson reports that, contrary to what might be supposed, the ultra-violet content in smoky cities is 85-90% of that in the clear air of rural communities. But the ultra-violet content at street level may be only 10% of that on the tops of buildings directly above. Dr. Tisdall found that the smoke, dust, and moisture of Baltimore filtered out 50% of the ultra-violet rays, and even 14-20% of the luminous rays. Dr. Brown suggests that children should be given sun baths one-half hour before 10 A.M. and after 4 P.M. on clear days or at noon on cloudy days. In other words, he believes that on cloudy or gray days the noon sun has the intensity of the early morning and evening sun on clear days.

Most of the authorities agree with Dr. Nelson that "dry, cool skin takes about twice as long to burn as warm, moist skin." Dr. Kellogg uses a fan to cool his patients while they are taking ultra-violet radiation. He finds that they are able to take much more without discomfort if the skin is kept cool.

Dr. Leonard Hill performed an experiment in a room of 70° with a mercury vapor lamp 10 inches from his skin. He obtained an erythema in 10 minutes. In a cold room under the same conditions it took one hour or longer. He also found that the application of hot water to the skin increased the sensitivity to ultra-violet rays, while the application of cold water decreased it.

Thus, from these findings, the old theory that we burn more on gray and cool days than on clear and hot ones seems definitely exploded. We are probably more careless on those days.

The sources of reflected rays are water, sand, snow, and white clouds. When in the vicinity of these, added precautions must be taken, for the direct rays plus the reflected rays may cause one to burn more quickly and severely than expected. Mountaineers take great precautions against the dangers of burning from the rays reflected from the snow.

Because of the presence of reflected rays, some of the sun's benefit can be derived from skyshine, as well as from direct sunshine. This is well to remember. For when the sun is too strong to expose ourselves for any length of time, exposure in the shade will give us the benefit of the reflected rays (which also have value) without the danger of burning.

All these conditions must be taken into consideration when determining the length of exposure. Most of the authorities agree that the first dose should be a small one. The period of exposure should be lengthened gradually enough to avoid sunburn.

What constitutes the maximum amount of beneficial sunshine is a point on which the authorities disagree. Dr. Kellogg says, "After considerable training it is possible for the patient to expose the greater part of his body to the sun for several hours a day not only without any injury but with great benefit." But Dr. Laurens and Dr. Nelson warn that overindulgence for normal people is foolhardy, and in hypersensitive persons may be actually dangerous.

All of the authorities advise protection for the eyes and head. Intense inflammation of the conjunctiva (the membrane covering the external surface of the eyeball and the inner surface of the eyelid) may result from exposure of the eyes. Babies should never lie with the sun in their eyes even when asleep.

There are many patented lotions and salves on the market which claim to prevent "sunburn" and to promote tanning. Dr. Traub explains that they fall into three classes: (1) the opaque substances such as zinc oxide, cold creams, and oils which prevent the

(Continued on page 252)

# Children's Books

## CAN READING EDUCATE FOR PEACE?

DOES reading about fighting make children want to fight? And conversely, will reading about good fellowship and friendliness inspire them toward peaceful feelings? Can we use children's reading to develop attitudes toward peace and war? These questions are raised again and again by American parents trying to measure, and perhaps control, the rôle of books in educating for peace.

There is, for example, a large and increasing variety of stories about children of other lands, ranging in age interest from pre-school through high school reading. There is some hope that such books as *Little Pear*, *Hansi*, and *Camel Bells* for younger children, or *Hans Brinker*, *Young Fu*, and *Herdboy of Hungary* for older ones may build up outgoing and sympathetic feelings toward the children of these far lands. A great many stories of this type, palpably written with an "international friendship" purpose are utterly unconvincing and unsuccessful even as entertainment. Unless such stories are written with courage and sincerity there is a danger that they deal in the romantic differences rather than the basic kinship of flesh and blood children the world over.

Of books which deal realistically with the hopes, the strivings and vital needs of youth in the world today, there are few—but those few do offer some hope. Pearl Buck in *The Young Revolutionist*, achieves a vivid picture of young China on the march toward new ideals and new modes of action. In *Comrade One-Crutch* and *Vanya of the Streets* there is the stark realism of Russia's boyhood struggling for survival in a new world. Such vicarious contacts with the youth of other lands and their problems must surely have value in creating a warm and perhaps an enduring sympathy for these young people. On the other hand, books in which one country is always right and "foreigners" are naturally suspect, in which the hatreds and humiliations of past wars are perpetuated and glorified for the young generation may have definite effects in kindling and keeping alive the fires of international mistrust.

One feels, too, that books which glorify fighting and conquest offer our young people a distorted and misleading ideal of courage. It is not that we would deprive them of the vicarious thrills they derive from reading about combat; we do not even know how far such reading may serve usefully, to draw off

feelings which otherwise might find expression in action. But at the same time we would lead them toward other ideals of glory. Stories about men and women whose heroism contributed to the life and well-being of mankind—books such as *Men Who Found Out*, *Microbe Hunters*, *The Railroad to Freedom*, *Madame Curie*—have all the excitement of strife and struggle at the same time that they point to goals worth fighting for.

Few, indeed, of the books addressed to young people even attempt to clarify for them the fundamental causes of war or to offset these by offering a workable code of social ethics and morality. In recent years we have had a few brave books in which history is presented without the customary halos, and cause and effect are traced with a willingness to face facts. Such histories as *We the People* and *Man's Worldly Goods* (the latter a history of labor with a frankly Marxian point of view) are at least a challenge to smug thinking about our past and our present. Such virile stories as *Liberty or Death* and *Wagons Westward* go far to show the manifold aspects of our struggle for independence and the seamy side as well as the glory in our pioneering in the West. From such realistic presentations children may build up a background of knowledge and understanding which will help them to think more clearly about the problems of this troubled world in which they find themselves.

Whether any reading, good or bad, will outweigh those powerful forces in the environment which sway individual thinking and mass action, we cannot know. We can only offer our children a literature of honesty and high ideals, along with our own interpretations and clarifications, and hope that some of this will seep into their attitudes toward life.

### CHILDREN'S BOOK COMMITTEE OF THE CHILD STUDY ASSOCIATION

LITTLE PEAR—by Eleanor Frances Lattimore.....	Harcourt
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HANS BRINKER OR THE SILVER SKATES—by Mary Moses Dodge.....	Scribners
YOUNG FU OF THE UPPER YANGTZE—by Elizabeth Foreman Lewis.....	Winston
HERDBOY OF HUNGARY—by A. Finta and Jeanette Eaton.....	Harper
THE YOUNG REVOLUTIONIST—by Pearl S. Buck.....	Day
COMRADE ONE-CRUTCH—by Ruth Epperson Kennell.....	Harper
MEN WHO FOUND OUT—by Amabelle Williams-Ellis.....	Coward
MICROBE HUNTERS—by Paul de Kruif.....	Blue Ribbon
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MADAME CURIE—by Eve Curie.....	Doubleday, Doran & Co.
WE THE PEOPLE—by Leo Huberman.....	Harper
MAN'S WORLDLY GOODS—by Leo Huberman.....	Harper
LIBERTY OR DEATH—by Alexander Key.....	Harper
WAGONS WESTWARD—by Armstrong Sperry.....	Winston



# News and Notes

## *Summer Play Schools*

For the twenty-second consecutive summer, the Summer Play Schools Committee of the Child Study Association will continue its work with Play Schools which serve children who spend the major portion of the long vacation in New York City. This summer the Play Schools will be conducted by settlement and community houses, a housing project, a university, and in public and private schools. About 3,000 children, between the ages of four and thirteen, will attend during July and August. During the past year, the work of the Committee has reached Play School parents in fifteen study groups conducted in the neighborhoods where the schools are located, and this work has been extended through special courses for WPA personnel assigned to projects involving parents. An extensive training program, based on first-hand observations of teachers working in Play Schools, has been carried on during the Spring.

A new activity which will be available this summer for many of the older children is a special gardening project to be conducted on the outskirts of the city. This outdoor work will permit the children to have first-hand experiences with living and growing things through their work in the gardens. There will be opportunities, too, for developing nature trails, and for observing and caring for pets and domestic animals. These all-day trips will also offer swims, lunch and other outdoor activities.

The Summer Play Schools Committee will again maintain two demonstration schools—one in connection with New York University, and the other, Manhattanville Play School, in Public School No. 43. These offer to teachers, as well as to persons in related fields who come to New York from various parts of the country for summer study, an opportunity to observe this use of the vacation period for children. In the Manhattanville School it is possible to study intensively and to experiment with children's interests, different types of activities, materials best suited to summer-time programs. Here, too, all Play School teachers will have opportunity to observe and discuss the basic principles of the Play School program.

The motion picture film showing the work of Play Schools in New York City, is now available and has been shown to students, workers in recreation and health, and to groups of parents throughout the United States.

## *Preventing Blindness*

The twenty-third annual report of the National Society for the Prevention of Blindness carries an encouraging message of progress. The original Committee for Prevention of Blindness was organized some thirty years ago, primarily to fight ophthalmia neonatorum (babies' sore eyes). Wide-spread legislation requiring the use of prophylactic eye drops at birth has almost eliminated this major cause of blindness. The present anti-syphilis campaign—in which this Society is actively cooperating—should result in a marked decline in blindness due to preventable disease. The continued campaign against fireworks and certain dangerous toys such as air rifles and BB guns has had encouraging results. Sight saving classes for the education of children with seriously defective vision have increased rapidly, from two in 1913 to 558 at the present time, with 182 cities represented. The Society has cooperated in developing school lighting standards and fostering the teaching of eye hygiene.

## *Pacific Conference*

The theme of the conference of The New Education Fellowship which will take place at the University of Hawaii from June 19 to 25 is the very timely one of "Education for Democracy in a World at Conflict." Progressive educators from many foreign countries as well as from the United States will attend this international conference. Among the leaders who will take part in the meetings and study courses are: Lewis Mumford, author; Paul Hanna, Professor at Stanford University; Robert H. Lane, Superintendent of the Los Angeles Public Schools; W. Carson Ryan, Jr., President of the Progressive Education Association, and Sidonie M. Gruenberg, Director of the Child Study Association of America. On her way to Hawaii, Mrs. Gruenberg will lecture for the Chicago Association for Child Study and Parent Education on May 25, the Institute session of Oakland Teachers on June 2, and the California Home Economics Association in Pasadena on June 4. The topic for her address before the Pacific Conference will be "Modern Education and the Needs of the Adolescent"; and she will give a course in Child Development and Family Relationships at the conference which will be continued at the University of Hawaii from June 27 to July 2.

## AGGRESSION IN YOUNG CHILDREN

*(Continued from page 230)*

attack in other areas, e.g., in stealing, in faulty toilet habits such as untimely evacuation, or in nightmares.

Everyone dealing with children under the age of five or six has been astonished by the ineffectuality of reasoning at this age. It is of little use, for example, to ask a small child "not to interrupt" when grown-ups are talking. At this age his reasoning powers are not developed enough to take such an appeal. If, on the other hand, parents know something of the real forces behind the child's behavior they will be far more likely to be effective in their efforts to reduce friction. Perhaps the interrupting child either rightly or wrongly feels neglected and regards a conversation between his parents as an attempt to thrust him even farther away. The aggressive device of interruption would therefore be an expression of his emotional insecurity. This could be handled by either giving the child his share in the conversation or by offering him other satisfactory compensation.

But parents need to realize that, whatever they do, ambivalence will be one of the outstanding characteristics of child behavior. Even a child who has a fundamentally happy relationship to his parents will react on occasions with hate and anger. For example, I watched a boy who wanted to go out roller-skating, and was not allowed to do so by his mother, suddenly change his habitually friendly attitude and exclaim: "I hate you," with a look of dark anger. After being offered an equivalent of indoor activity which appealed to him, he changed back again to friendliness. A shift from love to hate and back to love in a few minutes is quite possible for a young child; in fact, such instability is typical.

At the age of five or six the child should have progressed far enough to control his feelings with more stability. It should now be possible to reason things out with him and to appeal to his capacity for self-control. If this can be done, it eases the situation, and aggression becomes less of a problem. At the same time there will be innumerable outlets for sublimated forms of aggression in the mastery of manual and intellectual skills, in games, and dramatics, and parents should help their children avail themselves of these opportunities.

In times of special strain (such as the birth of a new baby in the family, parents' divorce, moving, change of school, or change of nurse) relapses are very common, and aggression at these times has to be

dealt with very patiently. It is unwise, however, to ignore it entirely, because complete disregard may easily be interpreted by the child as prohibiting him any aggressive feelings at all. The child may respond to this evasion in the same way as if threatened or intimidated. Disregarding aggression means belittling its importance. This will not help the child in learning to master it.

During the years from six to eleven or twelve aggression plays a minor rôle. It returns to its dominating power at the onset of adolescence. At this period the resurgence of instinctual drives brings back aggression in its original forms. The same ambivalence and inaccessibility to reason again become familiar.

To trace the development of aggression during adolescence is beyond the scope of this presentation. I have tried to show some of the roots of aggression and, in part at least, its development. It should be evident that aggression as an outgoing active process in the child represents a necessary part of his social development. Without it sociability would be just as impossible as without the feelings of affection which develop simultaneously. The rôle of aggression as primarily a social response must be kept in mind if we are to hope for success in our efforts to modify and direct it into legitimate channels.

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## SUN BATHING

*(Continued from page 249)*

rays from reaching the skin, (2) fluorescent preparations containing quinine sulfate which are supposed to filter out selectively the ultra-violet rays, (3) tanning substances such as tannic acid which are supposed to decrease the user's sensitivity to light. Dr. Traub believes that these help a little, but not very much. Dr. Marion B. Sulzberger, on the other hand, says that there are several effective anti-sunburn lotions which offer very adequate protection and can be used to prevent excessive sunburn in blondes and other susceptible individuals and to protect patients with pathological sensitivity to sunlight.

We can conclude in general that, although there are undoubted benefits from exposure to the sun's rays, there are also great dangers in overindulgence. To quote Dr. Walter Henry Brown, "Although from infancy to old age a daily period in the air and sunshine with the minimum of clothing is one of the physician's most valuable and least expensive prescriptions . . . careful consideration must be given to the mode of exposure, the dosage, and what contra-indications may be present."



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## ATHLETICS AND AGGRESSION

(Continued from page 238)

instruction should be as much a part of the school curriculum as any other.

(4) Only upper-classmen who have already been through the mill should be allowed to start the autumn season with any form of organized games. In the lower grades the autumn and winter season should be devoted to the acquisition of the basic skills of all coordinated sports: the basic trunk-limb coordination, posture, walking, hopping, skipping, running, tumbling—then the manipulation of moving objects. Some students may by Spring be ready to undertake a few sports; but a great many will not. Some would be able to undertake some wrestling and boxing in the first year, but more not until the second or third. Prematurely to precipitate awkward and frightened children into the more drastic tests will undo everything which has been learned. To acquire each of these steps in development, situations must be devised which are devoid of anxiety and of competition in reality—so that the child's fantasies of competition and fear-laden imagery can be brought to the light and discharged. For instance, an awkward and timid child should not be asked to catch a thrown ball (no matter how soft) until he has learned to bounce a ball off a wall himself and catch it, because the mere fact that it was thrown at him will arouse a more frantic panic than he can manage.

The successful execution of such a program involves minute attention to all such details and endless sympathy with the problems of the physically "underprivileged" child. Unfortunately it is very difficult to find the personnel to carry on work of this kind. Usually the men who go in for physical education are men who have themselves been rather skilful youngsters. They have not had to pass through these turmoils themselves, and therefore often enough they have very little sympathy with such struggles, and look upon every awkward child as a cry-baby or a bad sport. Furthermore, even in the most progressive schools it is a matter of pride to train successful teams. Therefore they have to devote much of their time not to the solution of the problem of the "underprivileged," but to improving the specialized skills of those able to make varsity squads.

The dilemma was very apparent in the experience of a student at one of our excellent and sympathetic modern schools. He was a lad with extremely poor natural coordination. He could learn a sport only by slow and patient solitary work. He wanted

passionately to acquire some sport which meant closer, friendlier contact with his classmates. A certain amount of unresolved timidity, and the fantasies which are associated with any form of weapon, plus the fact that he felt that everybody would be starting as ignorant of the art as he himself, led him to choose fencing. He worked avidly on the basic forms of lunge and parry. He looked like a promising candidate; but immediately when placed in the combat situation, his slow and awkward reactions, and a sudden up-welling of unwanted anxious fantasies, blocked him completely. The coach quickly singled out those with greater natural aptitude. This boy was relegated to lower and lower squads. In discussing it, later he said, "Naturally the coach is busy with those who show some promise—I don't blame him. And naturally the other fellows want to fence with someone who is good, so I don't blame them for not fencing with me. But the result, as I figure it out, is that I don't get any experience or any teaching or any fun. I don't like to be a quitter, but what's the use of just sitting around"

Such an experience is by no means rare; it is only expressed more articulately here than is usual.

It is clear, however, that there are two entirely different functions which need to be performed in athletic training in schools, and it may well be that they demand two entirely different personnels—one the coach for teams, to give those who have aptitude the pleasure of winning—and the other an educator whose interest is in the reconstruction of both the emotional and physical aspects of the unskilful child's equipment for using his body effectively.

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# THE PHYSIOLOGICAL BASIS OF AGGRESSION

(Continued from page 235)

of the sympathetic nerves. Blood is shifted from skin and intestines to heart, brain, and muscle. Heart rate is increased and heart action strengthened. Blood pressure is raised. Glucose is released into the blood to provide energy and extra red blood cells to carry oxygen. Respiration is increased and the bronchial passages are dilated to aid in free passage of air. In other words, the organism is geared to a pitch of increased efficiency and prepared for instant and violent action. It is of interest here to note that fear as well as rage results in these same physiological changes, which prepare the animal for flight as well as for battle.

Since the environment can be modified more readily than the genetic constitution of an individual, an understanding of the rôle played by the environment in precipitating aggressive behavior is of great practical importance. When a dog unexpectedly attacks or a child "spontaneously" becomes destructive, one may be tempted to accept such behavior as innate and unrelated to an apparently friendly environment. Pavlov's conditioning experiments, however, prove conclusively that past experience may condition or determine the response to present stimuli, and demonstrate that an apparently irrelevant and innocuous stimulus, if previously associated with emotionally disturbing circumstances, may later by itself provoke a profound display of emotion.

Again, a child may fly into a rage and perhaps attack his mother, or younger brother with little or no *apparent* provocation. Such a child, even if highly intelligent, is usually unable to explain the violence of his actions. In his tantrum he behaves temporarily like the decorticated animal, since a slight stimulus will provoke a profound display of aggression.

Careful investigation will usually reveal in such cases that the apparently innocuous stimulus, through past association, has a special significance for the child and has thereby awakened an underlying emotional conflict of which he is no longer aware. The "senseless" outburst now becomes understandable as an expression of previously repressed emotion; and the present becomes illuminated by knowledge of the past. Aggressive impulses therefore when repressed may lead to outbursts of destructive and unpredictable behavior. Recovery from such a tendency frequently depends upon an understanding of earlier but forgotten conflicts. In the case of the young child it

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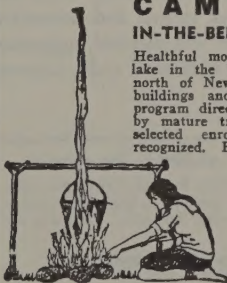
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is the parents who must understand; in the case of an adult, self-knowledge is needed if behavior is not to be dominated by the unresolved problems of the forgotten past.

Aggression is thus seen to be a complex form of behavior aroused by influences of both present and past environment playing upon the innate structure of the organism. Here as in other forms of behavior, the organism cannot be understood apart from its environment, nor can the essential and interlocking rôles of inheritance and environment be sharply distinguished.

The cerebral cortex, most highly developed in man, has an inhibitory or controlling influence upon aggression. When the cortex does not function adequately, outbursts of aggressive behavior are readily provoked by mild and innocuous stimuli. During the display of aggression, bodily changes take place, chiefly through activation of the sympathetic nerves, which prepare the organism for violent action.

The tendency toward aggressive behavior is a normal impulse. When blindly repressed it may lead, in individuals or in nations, to destructive violence against objects which may be in no way responsible for the repressed emotion. Physiologically as well as psychologically, aggression is akin to fear. It is, indeed, the unrecognized fear motif which may lead to aggression its most violent and destructive aspects. When understood and directed, aggression can become an asset to the individual and a constructive force in society.

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